UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

HSRL-6J

Monday, 17 October 1994

Tim Tedesco
375 AW/EM
701 Hanger Road
Scott Air Force Base, IL 62225-5035

Re: **Review of the Installation Restoration Program Closure Study Site 7 Sludge Lagoon Work Plan (WP) and Sampling and Analysis Plan (SAP) for Scott Air Force Base, St. Clair County, Illinois.**

Dear Mr. Tedesco:

The U.S. EPA has received the above referenced documents for Scott Air Force Base, St. Clair County, Illinois. In general, the WP and SAP appear to concentrate on analyses of subsurface soil samples between two to five feet. After taking a look at the field data and site summary presented in the ***IRP Stage 1 Remedial Investigation\Feasibility Study Final Technical Report April 1992***, it would be appropriate to evaluate the subsurface soil samples between *two to twelve feet* to determine whether there are elevated soil contaminant levels, if any, remaining at the site. Enclosed with this letter, you will find U.S. EPA comments generated from our review of the WP and SAP.

Thank you for the opportunity to provide comments on this document. If you have any questions, please contact me: (312) 886-0850.

Sincerely,

Laura J. Ripley
Federal Facilities Project Manager

Enclosure

cc: Brian Culnan, IEPA.
section file

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
COMMENTS

Installation Restoration Program
and Work Plan and Sampling and Analysis Plan
for Site 7 Sludge Lagoon
for Scott Air Force Base, St. Clair County, Illinois.

Work Plan Comments

1. **Page 1-9, Section 1.3.2, 4th Bullet** - Background soil locations should be selected from areas which are *unimpacted* by base activities. IEPA should be consulted as to where these locations would be appropriate.

2. **Page 1-9, Section 1.3.3, 1st Complete Paragraph** - This paragraph states that the a portion of the lagoon surface to a depth of 2 feet was excavated as part of the lagoon's closure. Page 1-8, Section 1.3.2 states that a portion of the lagoon floor area to a depth of 2 feet was excavated. Please be consistent with your description of the previous activities at this site. How deep was the lagoon? Was the excavation just the floor of the lagoon or did it also include the side walls?

3. **Page 2-16, Section 2.6, Data Needs** - In comparing the groundwater analytical results from 1988 and 1991 field activities to the Maximum Contaminant Levels for drinking water, it should be recognized that the MCL for thallium (.002 mg/l) was *estimated* to exceed the MCL in Wells 7-1, 7-2, and 7-3. In addition the action level for lead (.015 mg/l) was exceeded in Well 7-2 in 1991 and was estimated to exceed the action level in Wells 7-2 and 7-3.

   It should also be noted that groundwater analyses for VOCs and SVOCs were not conducted in 1988 and 1991.

4. **Page 3-1, Section 3.2.1, Field Tasks** - The second bullet states that six subsurface soil samples will be collected at depths ranging from 2 to 5 feet bgs in the suspected area of the lagoon. Due to the detection of VOCs, SVOCs, TPH, and metals from the 2- to 12-foot sampling interval.

   In light of comment #3, it may be appropriate to re-sample the three existing wells for the full Target Compound List.

   Page 3-1, Last Paragraph - It is somewhat vague as to whether or not the 2 to 5 feet bgs subsurface soil samples take into consideration that the bottom of the lagoon was excavated to a depth of 2 feet and backfilled with clean fill. If the lagoon bottom was 2 feet bgs and 2 feet was excavated then it would appear that the interval that requires sampling would be 4 feet bgs. Please clarify.

5. **Page 3-2, Section 3.2.1, 1st Complete Paragraph** - This paragraph states "the installation and sampling of the downgradient monitoring well will allow further characterization of contaminant mobility in the groundwater and documentation of the presence or absence of a LNAPL layer on the groundwater table." Will *one* well be sufficient to further characterize contaminant mobility and document the presence or absence of a LNAPL layer? It may help characterize the horizontal gradient, but what about the vertical gradient?

   Will water level readings be taken of the three existing wells?

6. **Figure 2-1, Existing and Proposed Monitoring Well and Subsurface Soil Sample Locations** - How was the location of the proposed monitoring well determined? Is this proposed location "downgradient" of this site?

Sampling and Analysis Plan Comments

1. **Quality Assurance Project Plan (QAPP)** -To ensure Quality Assurance and Quality Control of the analyses performed and the analytical results, U.S. EPA advises the U.S. Air Force to obtain IEPA approval of this QAPP before implementing the investigative work at Site 7.

2. **Field Sampling Plan, Section 2.1.4.1, Manual Borehole Construction and Abandonment** - As mentioned in comment #5 for the Work Plan, U.S. EPA recommends increasing the sampling interval from 2 to 5-feet bgs to 2 to 12-feet bgs. Since the drill rig will be on site to install the monitoring well, the drill rig could also be used to install the boreholes for the subsurface soil samples.

3. **Section 2.1.5.2, Monitoring Well Development** - Procedure 4 lists the criteria for stabilization of the field parameters: pH, conductivity and temperature. An additional parameter to consider is turbidity. U.S. EPA recommends a turbity reading less than or equal to 5 NTUs.

   Procedure 5 indicates that fluids will be discharged to the ground surface. All fluids generated during well development should be containerized and handled based on analytical results.

4. **Page 2-10, Section 2.1.10.2.4, Monitoring Well Purging and Development Fluids** - All fluids generated during well development should be containerized and handled based on analytical results.

5. **Page 2-10, Section 2.1.10.2.5, Drill Cuttings and Excess Soil Samples** - All investigative derived wastes generated during field activities should be containerized and handled based on analytical results.

6. **Page 2-11, Section 2.2.1.1, Subsurface Soil Sampling** - Instead of following procedure 2 (splitting the liner longitudinally and, using an organic vapor meter, obtain air readings from along the length of the soil sample to identify possible zones of VOC contamination), U.S. EPA recommends taking headspace measurements for a more accurate VOC reading. This procedure is conducted as follows:
    - A portion of the soil sample is transferred to a clean, glass "screening" jar, so that the jar is less than 3/4 full;
    - The container will be covered with one or more sheets of aluminum foil and an air-tight, screw-on lid;
    - The headspace above the sample is allowed to equilibrate for a *minimum* of ten minutes in an area where he temperature is between 60 and 80 degrees Fahrenheit;
    - The screw-on lid will be removed and a probe of a properly calibrated organic vapor meter is inserted, through the foil into the jar; and
    - The highest reading within the first 5 seconds is observed and recorded.

    This procedure can be used to determine which samples should be submitted for VOC analyses.

7. **Page 2-12, Section 2.2.1.2.1, Purging** - This section lists the criteria for stabilization of the field parameters: pH, conductivity and temperature. An additional parameter to consider is turbidity. U.S. EPA recommends a turbity reading less than or equal to 5 NTUs.

8. **General Comment** - Neither the WP not the SAP specifies whether or not the ground water samples collected for metals analysis will be filtered? U.S. EPA recommends taking both filtered and unfiltered samples.